



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,855	11/12/2003	John Warren Maly	200208-463-1	8646
22879 7590 03/18/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
SILVER, DAVID				
ART UNIT		PAPER NUMBER		
2128				
NOTIFICATION DATE		DELIVERY MODE		
03/18/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

Office Action Summary

Application No.

10/712,855

Applicant(s)

MALY ET AL.

Examiner

DAVID SILVER

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 10-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 11/8/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The Instant Office Action is in response to a Request for Continued Examination filed 11/08/2007.
2. Claims 1-5, 8, 10-16, 18-20 are currently pending in Instant Application.

Priority

3. Priority is not claimed (**Effective Filing: 11/12/2003**).

Information Disclosure Statement

4. The information disclosure statement(s) (IDS) submitted on 11/8/2007 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered if signed and initialed by the Examiner.

Response to Arguments

Response: 35 U.S.C. § 101

5. **Applicants argue:**

"If an error is not found, the method does not signal an error and the user of the method is aware that no error was found or signaled and that therefore the events were correctly generated by the agent."

(remarks: page 8; emphasis by Examiner)

6. **Examiner Response:**

Applicants' arguments are unpersuasive. The absence of a result does not indicate a result. Applicants admit that when an error is not found, the method does not produce a result (no signal is made). Therefore, the method is drawn to non-statutory subject matter as not having a final result that is tangible. No signal does not indicate that no error occurred as this is not claimed.

Response: 35 U.S.C. § 112

7. Applicants are thanked for amending the rejected claim in order to overcome the deficiency. Accordingly, the 35 U.S.C. § 112 rejection has been withdrawn for claim 8.

Response: 35 U.S.C. § 102

8. **Applicants argue:**

"Sharma does not indicate that speculative expectations are created and then either promoted or

Art Unit: 2128

deleted." (**Remarks: page 10 lines 34-35**)**9. Examiner Response:**

Applicants' arguments are **moot** in view of new grounds of rejection necessitated by amendment.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-5, and 8, 10-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 recites, in part:

"...USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the *final* result achieved by the claimed invention is "useful, tangible, and concrete."

MPEP 2106 recites, in part,

"a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected".

- 10.1 The steps of the method claims do not produce a useful, tangible, and concrete result. If the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected. The signaling is conditional on whether an event was not appropriately generated. When it was appropriately generated then there is no signaling and the claims are drawn to non-statutory subject matter. Additionally, see section "Response: 35 U.S.C. § 101" above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2128

11. Claims 1-5, 8, 10-16, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma (**USP 6,412,046**), and in view of Dubey (**USP 5,812,811**).

Sharma discloses: 1. A computer implemented method of verifying events generated by an agent, said method comprising:

detecting a stimulus at an input of said agent; determining whether generation of an event by said agent in response to said stimulus is conditional (**col: 3 line: 14-25; col: 2 line: 48-59**); creating an expectation of said event based at least in part on said stimulus, wherein said agent is expected to generate said event (**col: 1 line: 17-20; col: 4 line: 49-64; Fig 4, 5, 6 and description col: 2 line: 48-59**);

indicating that said expectation is speculative if said generation of said event is conditional, so that said expectation is a speculative expectation (**col: 2 line: 48-59; col: 7 line: 42-49; Fig 5 item 500 and Figure's description**),

verifying whether said event was appropriately generated by said agent; and signaling an error if said event was not appropriately generated by said agent (**col: 7 line: 1-5**).

Sharma does not however explicitly disclose: converting said speculative expectation to a non-speculative expectation if conditions indicate that said event should be generated by said agent; deleting said speculative expectation if said conditions indicate that said event should not be generated by said agent (**col: 1 line: 20-25**).

Dubey however discloses an analogous caching memory system having the said feature of converting and deleting (**col: 11 line: 59-65; col: 23 line: 11-17; col: 3 line: 14-26; col: 1 line: 58-60; col: 2 line: 60-67; col: 4 line: 16-21; Fig 4, 5 and descriptions**).

Sharma further discloses the following with rationale provided below: if said speculative expectation was converted to a non-speculative expectation, verifying whether said non-speculative event was generated by said agent; signaling an error if said non-speculative event was not generated by said agent; if said speculative expectation was deleted, verifying whether said deleted speculative

Art Unit: 2128

expectation was generated by said agent and signaling an error if said deleted speculative expectation was generated by said agent **(Sharma: col: 4 line: 1-11; col: 7 line: 1-5)**.

In view of KSR v. Teleflex, Sharma's base device and Dubey's device are comparable cache memory systems. One of ordinary skill could have applied the known improvement of discarding expectation when the system "knew" (based on conditions) that such events would not occur, and, "promoting" from speculative to non-speculative (making certain) that events should be generated, in such way to the base device that the results would have been predictable. Sharma verifies the expectations and events **(Sharma: col: 7 line: 1-5)** and therefore properly verify the creation / deletion of the said speculative expectations.

It would have been further obvious to verify the "promotion" / "deletion" of speculative events because this verifies the cache memory system's operations in a more realistic and complete manner; thus, saving time and money associated with creating products that are not fully and adequately tested and may produce errors.

Sharma discloses: 2. The method of claim 1, said determining whether said generation of said event is conditional comprises determining that said generation is conditional if said stimulus is a response containing an unmodified copy of requested data and other sources accessible by said agent may contain a modified copy of said requested data **(col: 1 line: 20-25 "stale copy")**.

Sharma discloses: 3. The method of claim 1, said determining whether said generation of said event is conditional comprises determining that said generation is conditional if said stimulus comprises a local read request response by a memory local to said agent **(Fig 4, 5, 6 and description; col: 4 line: 1-11)**.

Sharma discloses: 4. The method of claim 1, further comprising determining whether said event is expected based at least in part on said stimulus before creating said expectation of said event **(Fig 4, 5, 6 and description; Fig 5 description)**.

Art Unit: 2128

Sharma discloses: 5. The method of claim 1, further comprising determining whether snoop responses have been received by said agent before said determining whether said generation is conditional (**Fig 4, 5, 6 and description; Fig 5 description**).

Sharma discloses: 6. The method of claim 5, wherein said determining whether enough information has been received comprises determining whether all snoop responses have been received by said agent (**col: 3 line: 14-26; col: 1 line: 58-60; col: 2 line: 60-67; col: 4 line: 16-21**).

Sharma discloses: 8. The method of claim 7, wherein said conditions indicating that said event should be generated by said agent comprise said agent receiving all expected snoop responses, said expected snoop responses containing no modified data (**col: 1 line: 20-25 "stale copy"**).

Sharma discloses: 10. The method of claim 9, wherein said conditions indicating that said event should not be generated by said agent comprise said agent receiving a snoop response containing modified data (**col: 1 line: 23-25; col: 2 line: 31-37**).

Sharma discloses: 11. The method of claim 1 said verifying comprising: detecting said event at an output of said agent; and checking said expectation to verify whether said agent correctly generated said event (**Fig 5 item 550 505, 510, 545. 555 and Figure's descriptions**).

Sharma discloses: 12. The method of claim 1, said verifying comprising: detecting an outgoing event at an output of said agent; and checking a list of expectations of events to verify whether said agent correctly generated said outgoing event (**col: 7 line: 15-20; Fig 5 item 550 505, 510, 545. 555 and Figure's descriptions**).

Sharma discloses: 13. The method of claim 1, wherein said generation of said event is conditional, said method further comprising: detecting an outgoing event at an output of said agent; and storing an indication that said outgoing event occurred in said speculative expectation (**col: 7 line: 42-49**).

Sharma discloses: 14. The method of claim 13, further comprising: detecting information at said input of said agent indicating that said event corresponding to said speculative expectation should not be

Art Unit: 2128

generated by said agent; and signaling an error indicating that said outgoing event should not have occurred (**col: 7 line: 15-20; Fig 5 and description**).

As per claims 15-16, 19-20, note the rejection of claims 1, 2, 8 above. The Instant Claims recite substantially same limitations as the above-rejected claims and therefore rejected under same prior-art teachings.

Sharma discloses: 18. The apparatus of claim 15, wherein said condition is not satisfied if said memory agent receives a modified copy of requested data (**col: 1 line: 20-25**).

Support for Amendments and Newly Added Claims

12. Applicants are respectfully requested, in the event of an amendment to claims or submission of new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution. MPEP 714.02 recites: "Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP § 2163.06. An amendment which does not comply with the provisions of 37 CFR 1.121(b), (c), (d), and (h) may be held not fully responsive. See MPEP § 714." **Amendments not pointing to specific support in the disclosure may be deemed as not complying with provisions of 37 C.F.R. 1.131(b), (c), (d), and (h) and therefore held not fully responsive.** Generic statements such as "Applicants believe no new matter has been introduced" may be deemed insufficient.

Requests for Interview

13. In accordance with 37 CFR 1.133(a)(3), requests for interview must be made in advance.

Interview requests are to be made by telephone (571-272-8634) call or FAX (571-273-8634).

Applicants must provide a detailed agenda as to what will be discussed (generic statement such as "discuss §102 rejection" or "discuss rejections of claims 1-3" may be denied interview).

The detail agenda along with any proposed amendments is to be written on a PTOL-413A or a custom form and should be faxed (or emailed, subject to MPEP 713.01.I / MPEP 502.03) to the Examiner at least

Art Unit: 2128

3 days prior to the scheduled interview.

14. Interview requests submitted within amendments may be denied because the Examiner was not notified, in advance, of the Applicant Initiated Interview Request and due to time constraints may not be able to review the interview request to prior to the mailing of the next Office Action.

Conclusion

15. All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ DS /

David Silver, Patent Examiner
Art Unit 2128

*/Kamini S Shah/
Supervisory Patent Examiner, Art Unit 2128*